ECAT Physics Online Test

Sr	Questions	Answers Choice
1	When the bob of simple pendulum is at mean position, its K.E will be	A. maximum B. minimum C. zero D. all of them
2	When the bob of simple pendulum is at extreme position, its K.E. will be	A. maximum B. minimum C. zero D. all of them
3	When a mass 'm' is pulled slowly through a distance 'x_o' , the elastic potential energy of the spring would be	A. P.E=Kx² _o B. P.E= 1/2kx_o C. P.E=1/2Kx² _o D. P.E=Kx² _o
4	When a mass 'm' is pulled slowly, the spring stretches by an amount x_o, then the work done will be	A. W=Kx_o B. W=1/2Kx_o C. W=1/2Kx² _o D. W=4Kx_o
5	When a mass 'm' is pulled slowly, the spring stretches by an amount x_0,then the average force would be	A. F= Kx₀ B. F=1/2Kx₀ C. F=2Kx₀ D. F=4Kx₀
6	If the time period a simple pendulum is 2 s, its frequency would be	A. 2 Hz B. 1.5 Hz C. 1.0 Hz D. 0.5 Hz
7	If the length of a simple pendulum is 0.25 m its time period would be	A. 1.0 s B. 2.0 s C. 3.0 s D. 4.0 s
8	Time period of simple pendulum is independent of	A. length B. mass C. acceleration due to gravity D. none of them
9	Time period of a simple pendulum depends upon the	A. length of the pendulum B. acceleration due to gravity C. none of them D. both of them
10	If the length of second pendulum becomes four times then its time period will become	A. Four time B. Two times C. Six times D. Eight times
11	The weight 'mg' of the bob is resolved into	A. one component B. two components C. three components D. four components
12	The bob of a simple pendulum is suspended by	A. string B. heavy inextensible string C. light extensible string D. light inextensible string
13	A simple pendulum consists of a	A. small light bob B. small heavy bob C. big light bob D. big heavy bob
14	Acceleration of the mass at any instant is given by	A. a=k/m x B. a= - m/k x C. a = - k/m x D. a=m/k x

15	The phase determines the	A. displacement B. amplitude C. frequency D. state of motion of vibrating body
16	The characteristic of a body executing S.H.M is that its acceleration is	A. inversely proportional to displacement B. directly proportional to displacement C. independent of displacement D. equal to zero
17	The instantaneous velocity of a body moving along a circle is directed	A. along the radius B. along the tangent C. away from the circle D. none of them
18	When half of the cycle of a body executing S.H.M is completed, then the phase of the vibration will be	A. 45° B. 90° C. 135° D. 180°
19	Angular frequency 'w' is basically a characteristics of	A. linear motion B. circular motion C. both of them D. none of them
20	The expression for restoring force is	A. F=ma B. F=kx C. F= -kx D. Kx=ma
21	If F=0.04 N and X=4 cm then K=	A. 1 Nm⁻¹ B. 2 Nm⁻¹ C. 3 Nm⁻¹ D. 4 Nm⁻¹
22	The expression of Hook's law is	A. F=ma B. F=kx C. F= -kx D. -kx=ma
23	SI unit of frequency is	A. second B. hertz C. revolution D. vibrations/sec
24	Si units of time period is	A. second B. hertz C. revolution D. vibration/sec
25	An object undergoes S.H.M has maximum acceleration when its displacement form the means position	A. maximum B. zero C. half of the maximum value D. one third of the maximum value
26	An object undergoes S.H.M has maximum speed when its displacement from the mean position is	A. maximum B. zero C. half of the maximum value D. one third of the maximum value
27	The wave form of S.H.M will be	A. square wave B. sine wave C. rectified wave D. saw-tooth wave
28	If the displacement of a body executing S.H.M is plotted against time, then the curve is known as	A. frequency of S.H.M B. period of S.H.M C. wave form D. none of them
29	Which of the following does not exhibit S.H.M?	A. a plucked violin string B. a mass attached to a spring C. a train shunting between two terminals D. a simple pendulum
		A. motion of a projectile B. motion of a train along a circular path

30	Which of the following is an example of a S.H.M?	path C. motion of swing D. electrons revolving sound the nucleus